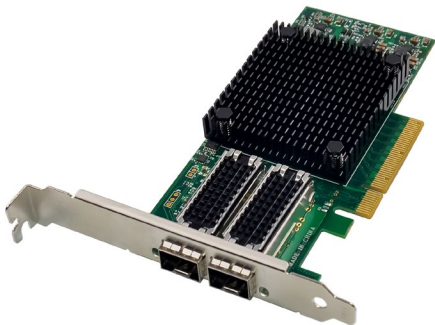




# Dual-Port 25G SFP28 Adapter



**Quick Installation Guide**  
DN-10180

# Table of Contents

1. Introduction .....	2
2. Package Contents .....	4
3. Specification .....	4
4. System Requirements .....	5
5. Hardware Installation .....	5
6. Install Drivers and Software .....	6

## 1. Introduction

Introducing the DN-10180 - a high-performance network interface card that is designed to provide reliable and efficient network connectivity for your server or workstation. This card is fully compliant with PCI Express Specification Revision 3.0, 1.1, and 2.0, and supports link rates of 2.5, 5.0, or 8.0GT/s at x8.

The DN-10180 features auto-negotiation capabilities that allow it to operate at x8, x4, x2, or x1, making it compatible with a wide range of devices. It also supports MSI/MSI-X mechanisms for efficient interrupt handling and dual-Port 25G, 10G, or 1Gb/s SFP+ connectivity for flexible network deployment.

This network interface card is designed to support a wide range of industry standards, including IEEE802.3by, 25G supporting all FEC modes, IEEE802.3az Energy Efficient Ethernet, IEEE802.3ap based

auto-negotiation and KR startup, and IEEE802.3ad, IEEE802.1ax, IEEE802.1Q, IEEE802.1P, IEEE802.1Qaz, IEEE802.1Qbb, IEEE802.1Qbg, IEEE1588V2.

The DN-10180 also supports jumbo frame support up to 9.6KB, independent NC-SI SMBus interface, independent stand-by and wake-on-Lan signals, hardware-based reliable transport, collective operation offloads, and PeerDirect RDMA (aka GPUDirect communication acceleration).

Other key features of the DN-10180 include 64/66 encoding, extended reliable connected transport, dynamically connected transport, RDMA over Converged Ethernet (RoCE), TCP/UDP/IP stateless offload, LSO.LRO. checksum offload, and hardware offload of encapsulation and decapsulation of NVGRE and VXLAN overlay networks.

This network interface card also supports SR-IOV, Multi-function, Enhanced QoS, VMware support, and up to 256 virtual functions and 8 physical functions per port. It offers guaranteed QoS for VMs and is compatible with OpenMPI, IBM PE, OSU MPI, and Intel MPI protocols.

The DN-10180 is designed to support remote boot over Ethernet, iSCSI, PXE, and UEFI and is compatible with a wide range of operating systems, including FreeBSD, Linux 5.x and above, VMware 5.5/6.0/6.5/6.7, Windows Server 2008/2012/2016/2019, and Win7/Win8/Win8.1/Win10 32 or 64bit.

Overall, the DN-10180 is a high-performance network interface card that offers reliable and efficient network connectivity for your server or workstation. It is designed to meet the demands of modern data centers and is compatible with a wide range of devices and operating systems.

## 2. Package Contents

- 1x PCIe x8 Mellanox Connectx-4 Dual-Port 25G SFP+ adapter
- 1x User's Manual
- 1x CD Driver
- 1x Low profile bracket

## 3. Specification

- Compliant with PCI Express Specification Revision 3.0,1.1 and 2.0,2.5, 5.0, or 8.0GT/s link rate x8
- Auto-negotiates to x8, x4, x2, or x1
- Support for MSI/MSI-X mechanism
- Supports dual-Port 25G,10G, or 1Gb/s SFP+
- IEEE802.3by,25G supporting all FEC modes, IEEE802.3az Energy Efficient Ethernet, IEEE802.3ap based auto-negotiation and KR startup.
- Support Standards IEEE802.3ad, IEEE802.1ax, IEEE802.1Q, IEEE802.1P, IEEE802.1Qaz, IEEE802.1Qbb, IEEE802.1Qbg, IEEE1588V2
- Jumbo frame support 9.6KB
- Independent NC-SI SMBus interface
- Independent stand-by and wake-on-Lan signals
- Collective operation offloads
- PeerDirect RDMA (aka GPUDirect communication acceleration)
- 64/66 encoding
- Extended Reliable connected transport
- Dynamically connected transport
- RDMA over Converged Ethernet (RoCE)
- TCP/UDP/IP stateless offload
- LSO.LRO. checksum offload
- Hardware offload of encapsulation and decapsulation of NVGRE and VXLAN overlay networks.

- SR-IOV, Multi-function, Enhanced QoS, VMware support
- SR-IOV up to 256 virtual functions
- SR-IOV up to 8 physical functions per port
- Guaranteed QoS for VMs
- OpenMPI, IBM PE, OSU MPI, Intel MPI protocol support
- NC-SI over MCTP over SMBus and NC-SI over MCTP over PCIe-Baseboard Management Controller interface
- Remote boot over Ethernet, iSCSI, PXE, and UEFI
- Supports Operation Systems: FreeBSD, Linux5.x and above, VMware5.5/6.0/6.5/6.7, Windows server2008/2012/2016/2019, win7/win8/win8.1/win10 32 or 64bit.

## 4. System Requirements

- FreeBSD, Linux, VMWare ESXi
- Win-server2008 R2/ Win-server2012 R2/ Win-server2016/ Win-server2019
- Windows: 8/8.1/10 32/64bit
- One available PCI Express x8/x16 slot

## 5. Hardware Installation

1. Turn Off the power to your computer.
2. Unplug the power cord and remove your computer's cover.
3. Remove the slot bracket from an available PCIe x4/x8/X16 slot.
4. To install the card, carefully align the card's bus connector with the selected PCIe slot on the motherboard. Push the board down firmly.
5. Replace the slot bracket's holding screw to secure the card.
6. Replace the computer cover and reconnect the power cord.

## 6. Install Drivers and Software

### Windows Operating Systems

You must have administrative rights to the operating system to install the drivers.

1. insert the CD driver bound with Mellanox network driver into your CD-ROM drive.
2. if the Found New Hardware Wizard screen is displayed, click Cancel.
3. select a driver based on the system type:  
**for Windows Server type: (Assume that D):**  
"D:\NIC Drivers\Mellanox\ConnectionX-4\Windows Server"  
**for Windows type: (Assume that D):**  
"D:\NIC Drivers\Mellanox\ConnectionX-4\Windows Client"
4. Double click the driver corresponding to the system.
5. Follow the instructions in the install wizard to finish it.

### Installing Linux Drivers from Source Code

1. Download and expand the base driver tar file.
2. Compile the driver module.
3. Install the module using the mod probe command.
4. Assign an IP address using the ipconfig command.

Function	
controller	MELLANOX ConnectX-4 LX
Fibre Media	25G SFP+, 25GDAC, 25GAOC, 10GSFP+, 10G DAC, 10G AOC, 1G SFP+
Fiber type	25G BASE-SR, 25GBASE-LR, 10GBASESR, 10GBASE-LR, SFP+, COPPER
Connect type	PCIE3.0 X8

Operation Systems	Windows8.1
	Windows10
	Windows Server2003/2003 R2
	Windows Server2008/2008 R2
	Windows Server2012/R2
	Windows Server2016/R2
	Windows Server2019/R2
	Windows Server2022/R2
	Ubuntu 14.04 or later
	Sles12 sp2 or later
	REHL/CentOS7.2 or later
	Oracle Linux 7.8 or later
	OpenEULER 20.03
	KYLIN 10
	Fedora 32
	EulerOs 2.0 SP5/SP8/SP9
	Debian 9.11/9.13/10.5/10.8
	BCLINUX7.5 OR later
	Stable kernel version 3.x,4.x or later
VMware ESX/ESXi 5.X,6.X or later	
Port type	Dual- Port 25G SFP28 connector

Each Port transmit speed	1/10/25Gbps
Ethernet power management	yes
Standards	IEEE802.3by 25Gbase-SR,25Gbase-LR, 25Gbase-ER IEEE802.3ae 10GBase-SR 10Gbase-LR, 10Gbase-ER,10Gbase-ZR IEEE802.3aq 10Gbase-LRM IEEE802.1Q,802.1P VLAN tags and priority IEEE802.1Qbb priority flow control IEEE802.1Qbg IEEE1588V2
PXE/UEFI support	YES
ISCSI support	yes
VMDs, SR-IOV support	yes
TCP/IP Sec offload	YES
IPv4, IPv6 Support	yes
Jumbo frame size	9.6KB
Network I/O Virtualization	VXLAN, Geneve, NVGRE, ISER,
Operation temperature	0°~55°C (32°F or 131°F)
Storage temperature	-40~ 70°C (-40°F or 158°F)
Relative humidity	5~90 non-condensing relative humidity



Hereby ASSMANN Electronic GmbH declares that the Declaration of Conformity is part of the shipping content. If the Declaration of Conformity is missing, you can request it by post under the below mentioned manufacturer address.

**[www.assmann.com](http://www.assmann.com)**

Assmann Electronic GmbH

Auf dem Schüffel 3

58513 Lüdenscheid

Germany

